

COCHRANE

WATER / WASTE WATER SERVICES



WASTEWATER TREATMENT PLANT

2020 ANNUAL REPORT

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2020 Annual Report

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ANNUAL

PERFORMANCE

REPORT

Annual Performance Report

This report is prepared to comply with Amended Environmental Compliance Approval Number 2737-BD4JYH issued June 28, 2019. The report shall contain:

- (a) A summary and interpretation of all Influent monitoring data, including sewage characteristics, flow rates and a comparison to the values used in the design of the Works;

FLOWS	
Total Flow	<i>595, 286 cubic meters</i>
Average Daily Flow	<i>1, 629 cubic meters</i>
Peak Hydraulic Flow	<i>3, 253 cubic meters</i>

RAW SEWAGE RESULTS

RAW SEWAGE	MONTHLY AVERAGE RESULTS
BOD ₍₅₎	110.28 mg/l
TOTAL SUSPENDED SOLIDS	149.91 mg/l
TOTAL PHOSPHORUS	3.96 mg/l
TKN (as N)	49.68 mg/l
AMMONIA & AMMONIA NITROGEN	30.56 mg/l
pH	7.50 mg/L

- (b) A summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;

FINAL EFFLUENT RESULTS

FINAL EFFLUENT	ANNUAL AVERAGE RESULTS
BOD ₍₅₎	4.96 mg/l
TOTAL SUSPENDED SOLIDS	21.56 mg/l
TOTAL PHOSPHORUS	0.24 mg/l
TKN (as N)	8.83 mg/l
AMMONIA	0.27 mg/l
CHLORINE RESIDUAL	0.0 mg/l
NITRITE	0.05 mg/l
NITRATE	17.29 mg/l
CBOD ₍₅₎	2.30 mg/l
E.COLI	6,013 CFU/100ml
WAS pH MAINTAINED BETWEEN 6.0-9.5 @ ALL TIMES?	Yes

The total flow in 2020 was 595, 286 cubic meters which represents a 16 % increase from 2019. The total flow in 2020 was 29.12 % of the average day flow design capacity.

The following represents removal efficiencies for the year 2020.

BOD ₍₅₎	95.82%
TOTAL SUSPENDED SOLIDS	86.39%
TOTAL PHOSPHORUS	92.64%
TKN (as N)	77.79%
AMMONIA	98.68%
AVERAGE REMOVAL EFFICIENCY	90.26%

The above represents a decrease in overall operating efficiency of 2.2 % over the year 2020.

- (c) A summary of any deviations from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;

None

- (d) A summary of all operating issues encountered and corrective actions taken;

- 1. Replaced water line to ferric room due to water break.*
- 2. Replaced backflow preventer on water line in pump room.*

- (e) A summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;

- 1. Drained and cleaned Contact Chamber*
- 2. Cleaned out Grit Chamber*
- 3. Changed hose on Ferric Pump*
- 4. Replaced Hour Meter in Blower Room.*
- 5. Replaced plates on overflow bypass and effluent weir*
- 6. Rebuilt Chlorinator*

7. *Rebuilt flight drive motor for West Clarifier*
8. *Replaced flight drive chain for West Clarifier*
9. *Ultraviolet disinfection was installed at the end of the contact chamber.*

Other maintenance involved routine oiling, greasing, cleaning, servicing etc.

- (f) A summary of any effluent quality assurance or control measures undertaken;

The monitoring program consists of regular daily rounds ensuring all equipment is functioning and that daily temperature, pH levels, chlorine residuals, dissolved oxygen, Phosphorus and Ammonia tests are recorded, and controlled. Sludge Blanket levels are also monitored and controlled on a daily basis along with scum removal. Monthly samples are taken for BOD, Suspended Solids, TKN, Nitrite, Nitrate, Weekly Samples were taken for E.Coli and Quarterly Samples were taken for Acute Lethality.

- (g) A summary of the calibration and maintenance carried out on all Influent and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in the Approval or recommended by the manufacturer;

Attached to this report is the 2020 calibration records for the instrumentation at the Waste Water Treatment Plant. In 2021 the instruments will once again be checked for their accuracy.

- (h) A summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any required under the following situations: (i) when any of the design objectives is not achieved more than 50% of the time in a year or there is an increasing trend in deterioration of Final Effluent quality and (ii) when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;

The attached Data Summary shows the Cochrane Waste Water Treatment Plant has not exceeded the effluent concentrations for the Biochemical Oxygen Demand (20 mg/l) and Phosphorus Criteria (1.0 mg/l), as specified in Schedule C of the aforementioned certificate of approval. However, we did exceed of Total Suspended Solids (20 mg/L) with an annual average of 21.56 mg/L(SAC report # 6151-BX9Q2J). The pH level has been maintained.

Compliance - (Certificate of Approval) The peak hydraulic flow capacity of 11,500 cu. Meters / day was not exceeded during the year 2020.

- (i) A tabulation of the volume of sludge generated in the reporting period, an outlined of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;

It is anticipated that sludge volume haulage for the year 2021 should be equal to or less than that of 2020 as the Plant is operating at or close to its maximum efficiency.

SLUDGE VOLUME HAULED

YEAR	SLUDGE AMOUNT HAULED
2016	3050 M3
2017	2484 M3
2018	2685 M3
2019	3504 M3
2020	3161 M3

The Town of Cochrane has retained C & H Hauling of Matheson Ontario (C of A 9477-5MGIMT, ECA # H11000003605) to haul and handle the sludge from the Water Pollution Control Plant. C&H Pumping advises that the sludge is dumped at the Landfill Sites (Lot 2, Con2 Fournier Township and Lot 2, Con 4 Carr Township) and not used for any other purpose.

- (j) A summary of any complaints received and any steps taken to address the complaints;

We have received complaints from customers due to back up in their homes during periods of heavy rain. During these periods our plant was also in overflow.

- (k) A summary of all Bypass, spill, Overflows within the meaning of Part X of EPA and abnormal discharge events and other abnormal operating conditions;

The bypass alarm signaled 7 overflows for the year 2020.

DATE	TYPE	DURATION (hours)	FLOW (m3)
2020/02/12	Overflow	672	28,264
2020/04/04	Overflow	45.7	1,945
2020.04/28	Overflow	117	4,950
2020/05/28	Overflow	8	125
2020/06/23	Overflow	70	5,088
2020/09/29	Overflow	8.75	124
2020/11/11	Overflow	19	1,532

The Overflow events were triggered by spring runoff and heavy rains. All bypass /overflow events have been tested for all specified parameters, as per attached Bypass Summary.

The log date, time and duration of any bypasses (overflow) or upset condition will be recorded and sampled for BOD, suspended Solids and Total Phosphorus. Further, the Spills Action Centre (SAC) will be notified, with the completed form sent to the MOE District Office, which is a requirement.

- (l) A copy of all Notice of Modifications to Sewage Works submitted to the Water Supervisor under paragraph 1.d. of Condition 10, with a summary report on status of implementation of all modificatons;

None

- (m) A summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overflow Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflow with estimated budget forecast for the year following that for which the report is submitted.

1. Upgrades to the headworks were completed.

This is the report on the Cochrane Waste Water Treatment Plant for the year 2020. I certify that the information in this document and all the attachments are correct, accurate and complete to the best of my knowledge.

Prepared by,
Melissa Hoogenhoud
Asset Coordinator

Respectfully submitted and reviewed by:

Lynn Chapleau
Infrastructure Supervisor

ANNUAL SUMMARY

ANNUAL SUMMARY 2020

Municipality: **Cochrane (PUC)**
 Project Name: **Cochrane Water Pollution Control Plant**
 Project Number: **120000355**
 Project Location: **Cochrane, ON**

Month	Parameter	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL	AVERAGE	MAXIMUM	MINIMUM
	Total Flow	22158.91	20908.42	35161.21	92820.41	75375.87	78398.42	52780.59	34099.59	39493.9	48436.27	62637.91	33014.32	595285.82	49607.152	92820.41	20908.42
Influent	Peak Rate	1133	1164	2718	5010	5377	6513	2281	1436	3289	2958	5268.3	1885.2	39032.5	3252.71	6513	1133
Bypass	Plant-Vol.		16040.14	12199.73	1945	5075	5088.8			123.6		1532.375		42004.645	6000.66	16040.14	123.6
	Time - Hrs		420	248	45.7	125	70			8.75		19		936.45	133.78	420	8.75
Raw	Susp. solids	430	510	240	23.8	2	44	148	131	76	64.7	56.7	72.7	1798.9	149.91	510	2
	BOD	230	310	200	25	49	65.5	77.4	74.7	74	74.4	68.5	74.8	1323.3	110.28	310	25
	TKN	91	103	69.1	16.9	61.4	46	31.5	44.3	46.1	30.9	19	37	596.2	49.68	103	16.9
	Phosphorus	8.09	8.39	7.13	0.906	1.35	1.63	4.06	4.71	3.08	3.05	1.91	3.16	47.466	3.96	8.39	0.906
	Ammonia	54.8	63.4	50.6	4.43	6.53	19.6	26.1	40.3	34.5	23.9	13.7	28.8	366.66	30.56	63.4	4.43
	Nitrate	0.05	0.05	0.05	1.92	0.05	0.05	0.19	0.05	0.05	0.05	0.27	0.05	2.83	0.24	1.92	0.05
	Nitrite	0.05	0.05	0.05	0.31	0.05	0.05	0.13	0.05	0.05	0.05	0.05	0.05	0.94	0.08	0.31	0.05
	Phosphate	0.012	15.7	14.4	0.53	0.607	1.5	5.55	8.24	5.34	6.04	3.5	5.8	67.219	5.60	15.7	0.012
	pH	7.36	7.41	7.7	7.45	7.73	7.46	7.61	7.64	7.28	7.39	7.52	7.48	90.03	7.50	7.73	7.28
	CBOD	170	260	160	33	56	69.7	68.8	71	6.1	71.5	50	73.6	1089.7	90.81	260	6.1
Effluent	Susp. solids	19.3	67.66667	145	6	4	4.4	0.67	5.3	1.3	0.67	0.67	3.7	258.67667	21.56	145	0.67
	BOD	7	9.3	28	2.7	1.9	1	1.1	1.8	1.7	2.3	1.6	1.1	59.5	4.96	28	1
	Phosphorus	0.1920476	0.5062105	0.4544	0.166	0.15	0.1595455	0.2374545	0.2253	0.1897143	0.3066667	0.1457	0.1113333	2.8445724	0.24	0.5062105	0.1113333
	Ammonia	0.1338095	0.1842105	0.7533333	0.18	0.173	0.0880952	0.1109091	0.215	0.1395	1.0733333	0.0425	0.1428571	3.236548	0.27	1.0733333	0.0425
	Nitrate	29.9	31.1	30.9	9.04	9.05	1.7	14.2	22.3	26.6	0.05	13.2	19.4	207.44	17.29	31.1	0.05
	Nitrite	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.6	0.05	0.05	0.05
	TKN	6.1	10.5	15.8	6.9	12.4	4.8	8.1	4.8	6.5	25.9	3.7	0.5	106	8.83	25.9	0.5
	CBOD	2.4	6.4	7.5	2.2	1.4	1.3	0.9	0.05	1.7	1	1.5	1.3	27.65	2.30	30.9	0.03
	Phosphate	0.372	0.359	30.9	0.229	0.102	0.058	0.079	0.196	0.11	6.36	0.03	0.161	38.956	5.34	39500	0.03
	E.Coli	39500	14750	16500	28	221.5	67.4	29.25	193.75	813	34.5	10	7.6	72155	6012.92	39500	7.6
	Acute Lethality		0			0			0			0		0	0.00	0	0
Date	Air Used																
	Influent Temp	14.290476	13.37	12.604545	9.615789	10.72	13.704545	16.245455	16.6	16.295238	14.814286	14.052632	12.47619	164.78916	13.73	16.6	9.615789
	Influent pH	8.0580952	8.2565	8.06	7.75	7.752	7.6954545	7.6513636	7.775	7.9561905	7.7428571	7.784	8.177619	94.65908	7.89	8.2565	
	Aeration Temp.	9.325	9.5277778	10.227273	8.713333	11.47895	14.3	18.24	17.77	15.63333	13.994737	12.316667	9.8833333	151.4104	12.62	18.24	8.713333
	30 Min. S.S.	40.8	33	22.3	31.0625	27.66667	28.1875	28.105263	31.526316	27.33333	35.647059	56	32.388889	394.01753	32.83	56	22.3
	D.O. % Level	5.3735	5.0205556	4.9545455	5.58625	6.97	4.2463158	2.9485	4.853	5.2705556	4.6963158	6.3433333	7.9355556	64.198427	5.35	7.9355556	2.9485
	Effluent pH	6.7875	6.3873684	6.3409091	7.3875	7.154211	7.2178947	7.186	6.9595	7.28	7.3052632	7.3861111	7.0761111	84.468369	7.04	7.3875	6.3409091
	Effluent Temp	11.561905	9.51	10.758333	9.229474	11.515	14.463636	18.204545	17.91	15.847619	13.766667	12.47	10.366667	155.60385	12.97	18.204545	9.229474
Plant	Wasting Vol. m3	27743.18	17508.53	41698.52	111607.2	90994.33	91225.846	69840.4	57352.15	68286.231	83076.97	104072.18	52243.95	815649.49	67970.79	0	0
	Chlorine (Kg)													0			
	Cl Dosage (mg/l)													0		0	0
	Cl Residual(mg/l)	0	0	0.002615	0.000763	0.0041	0	0	0	0	0	0.0009706	0	0.0084376	0.00	0.004089	0
	Cl2 in Creek													0	#DIV/0!	0	0
Grit	Hauled (Volume)													0	0.00	0	0
Sludge Hauled	Liquid Volume	309		745.56		257	418		454.53	254.58	381.87		340.9569	3161.4969			
Loading mg/L	Phosphorus	0.1372763	0.3649677	0.5153953	0.513606	0.365208	0.4169371	0.40429	0.247827	0.2497519	0.4791545	0.3042114	0.1185676	4.1171928	0.3430994	0.5153953	0.1185676
	BOD	5.0036248	6.705114	31.758512	8.353837	4.619811	2.6132807	1.8728596	1.9799762	2.2379877	3.5936587	3.3406885	1.714759	73.794109	6.1495091	31.758512	1.714759
	Suspended Solids	13.795708	48.786313	164.46372	18.56408	9.725919	11.498435	1.1407418	5.8299299	1.7114023	1.0468484	1.3989133	3.9404188	281.90243	23.491869	164.46372	1.0468484

PERFORMANCE

ASSESSMENT

REPORTS

BYPASS SUMMARY
NOTIFICATION AND LAB RESULTS

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: Feb 12 2020 Time of Call: 1017 a.m./p.m. } SAC
Reference #: 3726^{TC} Person Who Called: Liam
Office Called: 2726-DLQKZZ Reported By: Tyler Chedd
MOH Sandra
Bypass: Spill: Leak: Overflow:
Location of Incident: Cochran STP
Time of Incident: 0845 a.m./p.m. Receiver: Lilabelle Creek
Details of Incident: Planned bypass maintenance / upgrades
@ Plant
Downstream Users: None
Possible Effects on Receiver, Environment or Downstream Users: No

NOTE: Take 2 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: ~~10:10~~

Details of Call: end of planned

Termination of Incident

Date: 03/11/20 Time of Call: 10:15 Person Contacted: Blaine

Time of Termination: 1400 ^{03/10/20} Approximate Volume: 28264 Cu. Meters

Current Status: Chlorinating? Yes: No: Explain: _____

Further Action Required: NO

Reported By: Mike Nelson



CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	394147
Company:	Town of Cochrane - Wastewater	PO #:	9184
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Weekly WWTP
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Chris Crawford
Date Order Received:	2/19/2020	Analysis Started:	2/19/2020
Arrival Temperature:	6 °C	Analysis Completed:	2/25/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Discharge Effluent (Grab)	1517014	Wastewater	Grab		2/19/2020	8:31 AM
Planned Bypass	1517015	Wastewater	Grab		2/19/2020	8:32 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
KL-CBOD5 (K3)	Kirkland Lake	Determination of 5-Day Carbonaceous Biological Oxygen Demand (cBOD5)	Modified from APHA-5210B
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

REPORT COMMENTS

Bacti lot #N/A



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 394147

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 394147

WORK ORDER RESULTS

Sample Description		Planned Bypass	
Sample Date		2/19/2020 8:32 AM	
Lab ID		1517015	
General Chemistry	Result	MDL	Units
pH	6.13	N/A	pH
Total Phosphorus (as P)	1.27	0.02	mg/L
Sample Description		Discharge Effluent (Grab)	
Sample Date		2/19/2020 8:31 AM	
Lab ID		1517014	
Microbiology	Result	MDL	Units
Escherichia coli	4000 [6000]	1000	CFU/100mL
Sample Description		Planned Bypass	
Sample Date		2/19/2020 8:32 AM	
Lab ID		1517015	
Oxygen Demand	Result	MDL	Units
Carbonaceous BOD	7.6	2.4	mg/L
Sample Description		Planned Bypass	
Sample Date		2/19/2020 8:32 AM	
Lab ID		1517015	
Solids	Result	MDL	Units
Total Suspended Solids	62	4	mg/L



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 394147

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	394514
Company:	Town of Cochrane - Wastewater	PO #:	9184
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Weekly WWTP
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Rob McNabb
Date Order Received:	2/25/2020	Analysis Started:	2/26/2020
Arrival Temperature:	7 °C	Analysis Completed:	3/4/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Discharge Effluent (Grab)	1518190	Wastewater	Grab		2/25/2020	8:40 AM
Planned Bypass	1518191	Wastewater	Grab		2/25/2020	8:40 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

REPORT COMMENTS

Bacti lot # N/A



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 394514

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 394514

WORK ORDER RESULTS

Sample Description	Planned Bypass		
Sample Date	2/25/2020 8:40 AM		
Lab ID	1518191		

General Chemistry	Result	MDL	Units
pH	6.45	N/A	pH
Total Phosphorus (as P)	2.64 [2.55]	0.02	mg/L

Sample Description	Discharge Effluent (Grab)		
Sample Date	2/25/2020 8:40 AM		
Lab ID	1518190		

Microbiology	Result	MDL	Units
Escherichia coli	22000 [26000]	1000	CFU/100mL

Sample Description	Planned Bypass		
Sample Date	2/25/2020 8:40 AM		
Lab ID	1518191		

Oxygen Demand	Result	MDL	Units
Carbonaceous BOD	10.6	1	mg/L



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 394514

Sample Description	Planned Bypass		
Sample Date	2/25/2020 8:40 AM		
Lab ID	1518191		
Solids	Result	MDL	Units
Total Suspended Solids	125	5	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[r]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



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Committed to Quality and Service

CERTIFICATE OF ANALYSIS - REVISED

Supersedes report printed: 03/11/2020 09:02

Client:	Melissa Hoogenhoud	Work Order Number:	395030
Company:	Town of Cochrane - Wastewater	PO #:	9184
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Monthly WWTP
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Tyler Cheff
Date Order Received:	3/3/2020	Analysis Started:	3/4/2020
Arrival Temperature:	12 °C	Analysis Completed:	3/17/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Influent	1519802	Wastewater	Grab		3/3/2020	9:00 AM
Discharge Effluent	1519803	Wastewater	Grab		3/3/2020	8:35 AM
Glackmeyer Lagoon	1519804	Wastewater	Grab		3/3/2020	8:45 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
Phosphate /W (A23.1)	Kirkland Lake	Determination of Ortho-Phosphate in Water.	Modified from EPA 365.3 and ESS 310.2.
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,



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CERTIFICATE OF ANALYSIS - REVISED

Supersedes report printed: 03/11/2020 09:02

Town of Cochrane - Wastewater

Work Order Number: 395030

Method	Lab	Description	Reference
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

REPORT COMMENTS

* REVISED report to correct data entry error affecting E.coli result. 03/18/20 HH

This report has been approved by:

Madhavi Purohit, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS - REVISED

Supersedes report printed: 03/11/2020 09:02

Town of Cochrane - Wastewater

Work Order Number: 395030

WORK ORDER RESULTS

Sample Description	Influent		Discharge Effluent		Glackmeyer Lagoon		
Sample Date	3/3/2020 9:00 AM		3/3/2020 8:35 AM		3/3/2020 8:45 AM		
Lab ID	1519802		1519803		1519804		
Anions	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	30.90	0.05	<0.05	0.05	mg/L
Nitrite (as N)	<0.05	0.05	<0.05	0.05	<0.05	0.05	mg/L
Phosphate	14.40	0.02	2.280	0.006	9.66	0.02	mg/L

Sample Description	Influent		Discharge Effluent		Glackmeyer Lagoon		
Sample Date	3/3/2020 9:00 AM		3/3/2020 8:35 AM		3/3/2020 8:45 AM		
Lab ID	1519802		1519803		1519804		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	50.6	0.4	0.64	0.01	31.2	0.4	mg/L
pH	7.7	N/A					pH
Total Kjeldahl Nitrogen	69.1 [69.9]	0.8	15.8	0.4	37.6	0.4	mg/L
Total Phosphorus (as P)	7.13	0.04	2.71	0.02	5.37	0.04	mg/L

Sample Description	Discharge Effluent		
Sample Date	3/3/2020 8:35 AM		
Lab ID	1519803		
Microbiology	Result	MDL	Units
Escherichia coli	33000 [28000]	1000	CFU/100mL



CERTIFICATE OF ANALYSIS - REVISED

Supersedes report printed: 03/11/2020 09:02

Town of Cochrane - Wastewater

Work Order Number: 395030

Sample Description	Influent		Discharge Effluent		Glackmeyer Lagoon		
Sample Date	3/3/2020 9:00 AM		3/3/2020 8:35 AM		3/3/2020 8:45 AM		
Lab ID	1519802		1519803		1519804		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	200	30	28	3	150	30	mg/L
Carbonaceous BOD	160	30	9.9	3	150	30	mg/L

Sample Description	Influent		Discharge Effluent		Glackmeyer Lagoon		
Sample Date	3/3/2020 9:00 AM		3/3/2020 8:35 AM		3/3/2020 8:45 AM		
Lab ID	1519802		1519803		1519804		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	240	5	120.0	6.7	123	5	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[r]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	395519
Company:	Town of Cochrane - Wastewater	PO #:	9184
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Weekly WWTP
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Mike Nelson
Date Order Received:	3/10/2020	Analysis Started:	3/11/2020
Arrival Temperature:	5 °C	Analysis Completed:	3/17/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Data Collected	Time Collected
Discharge Effluent (Grab)	1521449	Wastewater	Grab		3/10/2020	8:21 AM
Planned Bypass	1521450	Wastewater	Grab		3/10/2020	8:25 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

REPORT COMMENTS

Bacti lot # N/A



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 395519

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 395519

WORK ORDER RESULTS

Sample Description	Planned Bypass		
Sample Date	3/10/2020 8:25 AM		
Lab ID	1521450		
General Chemistry	Result	MDL	Units
pH	5.9	N/A	pH
Total Phosphorus (as P)	3.65 [3.61]	0.02	mg/L

Sample Description	Discharge Effluent (Grab)		
Sample Date	3/10/2020 8:21 AM		
Lab ID	1521449		
Microbiology	Result	MDL	Units
Escherichia coli	44000 [45000]	1000	CFU/100mL

Sample Description	Planned Bypass		
Sample Date	3/10/2020 8:25 AM		
Lab ID	1521450		
Oxygen Demand	Result	MDL	Units
Carbonaceous BOD	5.1	0.5	mg/L



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 395519

Sample Description	Planned Bypass		
Sample Date	3/10/2020 8:25 AM		
Lab ID	1521450		
Solids	Result	MDL	Units
Total Suspended Solids	170 [165]	10	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

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MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: April 4/2020 Time of Call: 1700 a.m./(p.m.)
Reference #: 904281 Person Who Called: Brenda Capicciotti
Office Called: SAC @ 1705 Reported By: Rob McNabb
1718 MOH Left message at dest office
Bypass: Spill: Leak: Overflow:
Location of Incident: Cochrane STP
Time of Incident: 1630 a.m./(p.m.) Receiver: Lilabelle Creek
Details of Incident: Spring melt

Downstream Users: None
Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 2 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: April 7/20 Time of Call: 1131 Person Contacted: FATIMA JABER
APRIL 6/20 1136 MOH LEANNA
Time of Termination: 1440 Approximate Volume: 1945 Cu. Meters
DURATION 45 MINS. 40 MINS
Current Status: Chlorinating? Yes: No: Explain: _____

Further Action Required: NO

Reported By: AARON MORRISON



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Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client: Melissa Hoogenhoud
Company: Town of Cochrane - Wastewater
Address: 171 Fourth Ave, Box 490
Cochrane, ON, P0L 1C0
Phone/Fax: (705) 272-4232 / (705) 272-2634
Email: Melissa.Hoogenhoud@cochraneontario.com

Work Order Number: 397037
PO #:
Regulation: None
Project #: Lagoon Overflow
DWS #:
Sampled By: Rob McNabb

Date Order Received: 4/6/2020
Arrival Temperature: 15 °C

Analysis Started: 4/9/2020
Analysis Completed: 4/13/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Bypass Sample	1526700	Wastewater	Grab		4/4/2020	5:00 PM
Bypass	1526701	Wastewater	Grab		4/5/2020	1:00 AM
Bypass	1526702	Wastewater	Grab		4/5/2020	9:00 AM
Bypass	1526703	Wastewater	Grab		4/5/2020	5:00 PM
Bypass Sample	1526704	Wastewater	Grab		4/5/2020	11:00 PM
Bypass Sample	1526705	Wastewater	Grab		4/6/2020	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD)	Modified from SM-5210-B
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 397037

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 397037

WORK ORDER RESULTS

Sample Description	Bypass Sample		Bypass		Bypass		Bypass		
Sample Date	4/4/2020 5:00 PM		4/5/2020 1:00 AM		4/5/2020 9:00 AM		4/5/2020 5:00 PM		
Lab ID	1526700		1526701		1526702		1526703		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Total Phosphorus (as P)	1.06	0.02	0.585	0.002	1.230	0.006	1.49	0.01	mg/L

Sample Description	Bypass Sample		Bypass Sample		
Sample Date	4/5/2020 11:00 PM		4/6/2020 7:00 AM		
Lab ID	1526704		1526705		
General Chemistry	Result	MDL	Result	MDL	Units
Total Phosphorus (as P)	0.692	0.002	0.494	0.002	mg/L

Sample Description	Bypass Sample		Bypass		Bypass		Bypass		
Sample Date	4/4/2020 5:00 PM		4/5/2020 1:00 AM		4/5/2020 9:00 AM		4/5/2020 5:00 PM		
Lab ID	1526700		1526701		1526702		1526703		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	12.1	1	14.4	1	12.2	1	13.6	1	mg/L
Carbonaceous BOD	12.9	1	13.6	1	13.4	1	13.2	1	mg/L

Sample Description	Bypass Sample		Bypass Sample		
Sample Date	4/5/2020 11:00 PM		4/6/2020 7:00 AM		
Lab ID	1526704		1526705		
Oxygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	12.2	1	10.6	1	mg/L
Carbonaceous BOD	7.6	1	8.4	1	mg/L



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 397037

Sample Description	Bypass Sample		Bypass		Bypass		Bypass		
Sample Date	4/4/2020 5:00 PM		4/5/2020 1:00 AM		4/5/2020 9:00 AM		4/5/2020 5:00 PM		
Lab ID	1526700		1526701		1526702		1526703		
Solids	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	61.5	1	55	1	41.5	1	123	1	mg/L
Sample Description	Bypass Sample		Bypass Sample						
Sample Date	4/5/2020 11:00 PM		4/6/2020 7:00 AM						
Lab ID	1526704		1526705						
Solids	Result	MDL	Result	MDL	Units				
Total Suspended Solids	54	1	16.5	1	mg/L				

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

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MDL: Method detection limit or minimum reporting limit.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

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Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	397223
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Aaron Morrison
Date Order Received:	4/7/2020	Analysis Started:	4/7/2020
Arrival Temperature:	10 °C	Analysis Completed:	4/15/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
#8 Overflow Strn	1527291	Wastewater	Grab		4/6/2020	2:40 PM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540
Un-Ionized NH ₃ (A42.4)	Timmins	Calculation of Un-Ionized Ammonia	Modified from APHA-4500

REPORT COMMENTS

Un-ionized ammonia calculated using lab pH and received temperature.



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 397223

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 397223

WORK ORDER RESULTS

Sample Description	#8 Overflow Stn		
Sample Date	4/6/2020 2:40 PM		
Lab ID	1527291		
General Chemistry	Result	MDL	Units
Ammonia (as N)	4.63	0.01	mg/L
pH	7.35	N/A	pH
Total Phosphorus (as P)	1.300	0.006	mg/L
Un-Ionized Ammonia (Calc.)	0.019	0.002	mg/L

Sample Description	#8 Overflow Stn		
Sample Date	4/6/2020 2:40 PM		
Lab ID	1527291		
Microbiology	Result	MDL	Units
Escherichia coli	>200000	1000	CFU/100mL

Sample Description	#8 Overflow Stn		
Sample Date	4/6/2020 2:40 PM		
Lab ID	1527291		
Oxygen Demand	Result	MDL	Units
Carbonaceous BOD	56	6	mg/L



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 397223

Sample Description	#8 Overflow Stn		
Sample Date	4/6/2020 2:40 PM		
Lab ID	1527291		
Solids	Result	MDL	Units
Total Suspended Solids	46.7 [43.3]	2.2	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

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MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

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Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: April 28 2020 Time of Call: 1707 a.m./(p.m.)
Reference #: 904318 Person Who Called: Nic Lymes
Office Called: SAC Reported By: Rob McNabb
Bypass: MOH @ 1702 left message. Spill: _____ Leak: _____ Overflow:
Location of Incident: Cochrane STP
Time of Incident: 1630 a.m./(p.m.) Receiver: Lilabelle Creek
Details of Incident: Spring melt
Downstream Users: NONE
Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 2 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: MAY 20 Time of Call: 1054 Person Contacted: JULIAN
MAY 3/20 MOH @ 1058 LEWIS
Time of Termination: 1400 Approximate Volume: 4950 Cu. Meters
4 days 21 hrs 117 hrs
Current Status: Chlorinating? Yes: _____ No: Explain: _____
Further Action Required: NO

Reported By: _____

First call to SAC was confusing the operator for SAC ask questions and seemed confused on how are bypass is working.



CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	398830
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Bypass
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Rob McNabb
Date Order Received:	4/29/2020	Analysis Started:	4/30/2020
Arrival Temperature:	10 °C	Analysis Completed:	5/6/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Over Flow #1	1532498	Wastewater	Grab		4/28/2020	4:30 PM
Sewage Plant Over Flow #2	1532499	Wastewater	Grab		4/28/2020	11:30 PM
Sewage Plant Over Flow #3	1532500	Wastewater	Grab		4/29/2020	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 398830

This report has been approved by:

Adam Tam, M.Sc.

Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 398830

WORK ORDER RESULTS

Sample Description	Sewage Plant Over Flow #1		Sewage Plant Over Flow #2		Sewage Plant Over Flow #3		
Sample Date	4/28/2020 4:30 PM		4/28/2020 11:30 PM		4/29/2020 7:00 AM		
Lab ID	1532498		1532499		1532500		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
pH	7.34	N/A	7.36	N/A	7.55	N/A	pH
Total Kjeldahl Nitrogen	12.3	0.4	14.0	0.4	11.7	0.4	mg/L
Total Phosphorus (as P)	1.14	0.02	0.887	0.002	0.933	0.002	mg/L

Sample Description	Sewage Plant Over Flow #1		Sewage Plant Over Flow #2		Sewage Plant Over Flow #3		
Sample Date	4/28/2020 4:30 PM		4/28/2020 11:30 PM		4/29/2020 7:00 AM		
Lab ID	1532498		1532499		1532500		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	11.3	1	11.9	1	11.6	1	mg/L
Carbonaceous BOD	12.3	1	11.9	1	7.9	1	mg/L

Sample Description	Sewage Plant Over Flow #1		Sewage Plant Over Flow #2		Sewage Plant Over Flow #3		
Sample Date	4/28/2020 4:30 PM		4/28/2020 11:30 PM		4/29/2020 7:00 AM		
Lab ID	1532498		1532499		1532500		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	117	2	108	2	47.5	1	mg/L



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 398830

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	398916
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Bypass
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Rob McNabb
Date Order Received:	4/30/2020	Analysis Started:	4/30/2020
Arrival Temperature:	9 °C	Analysis Completed:	5/6/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Over Flow #1	1532775	Wastewater	Grab		4/29/2020	3:00 PM
Sewage Plant Over Flow #2	1532776	Wastewater	Grab		4/29/2020	11:00 PM
Sewage Plant Over Flow #3	1532777	Wastewater	Grab		4/29/2020	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD)	Modified from SM-5210-B
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 398916

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 398916

WORK ORDER RESULTS

Sample Description	Sewage Plant Over Flow #1		Sewage Plant Over Flow #2		Sewage Plant Over Flow #3		
Sample Date	4/29/2020 3:00 PM		4/29/2020 11:00 PM		4/29/2020 7:00 AM		
Lab ID	1532775		1532776		1532777		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
pH	7.31	N/A	7.41	N/A	7.61	N/A	pH
Total Kjeldahl Nitrogen	34.5	0.4	16.4	0.4	25.0	0.4	mg/L
Total Phosphorus (as P)	1.28	0.02	0.958	0.002	0.706	0.002	mg/L

Sample Description	Sewage Plant Over Flow #1		Sewage Plant Over Flow #2		Sewage Plant Over Flow #3		
Sample Date	4/29/2020 3:00 PM		4/29/2020 11:00 PM		4/29/2020 7:00 AM		
Lab ID	1532775		1532776		1532777		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	8.9	1	12.7	1	6.5	1	mg/L
Carbonaceous BOD	9.1	1	6.1	1	13.4	1	mg/L

Sample Description	Sewage Plant Over Flow #1		Sewage Plant Over Flow #2		Sewage Plant Over Flow #3		
Sample Date	4/29/2020 3:00 PM		4/29/2020 11:00 PM		4/29/2020 7:00 AM		
Lab ID	1532775		1532776		1532777		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	177.0	3.3	64	2	50.0	1.3	mg/L



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 398916

LEGEND

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MDL: Method detection limit or minimum reporting limit.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



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CERTIFICATE OF ANALYSIS

Client:	Lynn Chapleau	Work Order Number:	399004
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Informatio
Phone/Fax:	(705) 272-5067 / (705) 272-2634	Project #:	Bypass
Email:	lynn.chapleau@cochraneontario.com	DWS #:	
		Sampled By:	Aaron Mor
Date Order Received:	5/1/2020	Analysis Started:	5/1/2020
Arrival Temperature:	17 °C	Analysis Completed:	5/11/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments
Sewage Plant Over Flow #7	1532984	Wastewater	Grab	
Sewage Plant Over Flow #8	1532985	Wastewater	Grab	
Sewage Plant Over Flow #9	1532986	Wastewater	Grab	

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry

Date of Issue: 05/11/2020 16:38

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

WORK ORDER RESULTS

Sample Description	Sewage Plant Over Flow #7		Sewage Plant Over Flow #8		Sewage Plant Over Flow #9		
Sample Date	4/30/2020 3:00 PM		4/30/2020 11:00 PM		5/1/2020 7:00 AM		
Lab ID	1532984		1532985		1532986		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
pH	7.61	N/A	7.72	N/A	7.86	N/A	pH
Total Kjeldahl Nitrogen	9.3	0.4	8.2	0.4	10.5	0.4	mg/L
Total Phosphorus (as P)	0.566 [0.568]	0.002	0.550	0.002	0.774	0.002	mg/L

Sample Description	Sewage Plant Over Flow #7		Sewage Plant Over Flow #8		Sewage Plant Over Flow #9		
Sample Date	4/30/2020 3:00 PM		4/30/2020 11:00 PM		5/1/2020 7:00 AM		
Lab ID	1532984		1532985		1532986		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	11.7	1	13.2	1	13.1	1	mg/L
Carbonaceous BOD	11.3	1	10.6	1	7.8	1	mg/L

Sample Description	Sewage Plant Over Flow #7		Sewage Plant Over Flow #8		Sewage Plant Over Flow #9		
Sample Date	4/30/2020 3:00 PM		4/30/2020 11:00 PM		5/1/2020 7:00 AM		
Lab ID	1532984		1532985		1532986		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	64	2	80	2	23	2	mg/L



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Town of Cochrane - Wastewater

LEGEND

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MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOI

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	399088
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Informatio
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Bypass
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Aaron Moi
Date Order Received:	5/4/2020	Analysis Started:	5/5/2020
Arrival Temperature:	14 °C	Analysis Completed:	5/11/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments
Sewage Plant Over Flow #10	1533245	Wastewater	Grab	
Sewage Plant Over Flow #11	1533246	Wastewater	Grab	
Sewage Plant Over Flow #12	1533247	Wastewater	Grab	
Sewage Plant Over Flow #13	1533248	Wastewater	Grab	
Sewage Plant Over Flow #14	1533249	Wastewater	Grab	
Sewage Plant Over Flow #15	1533250	Wastewater	Grab	
Sewage Plant Over Flow #16	1533251	Wastewater	Grab	

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Method	Lab	Description
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

WORK ORDER RESULTS

Sample Description	Sewage Plant Over Flow #10		Sewage Plant Over Flow #11		Sewage Plant Over Flow #12		Sewage Plant Over Flow #	
Sample Date	5/1/2020 3:00 PM		5/1/2020 11:00 PM		5/2/2020 7:00 AM		5/2/2020 3:00 AM	
Lab ID	1533245		1533246		1533247		1533248	

General Chemistry	Result	MDL	Result	MDL	Result	MDL	Result	MDL
pH	7.35	N/A	7.37	N/A	7.59	N/A	7.38	N/A
Total Kjeldahl Nitrogen	22.0	0.4	10.3 [10.3]	0.4	11.1	0.4	12.9	0.4
Total Phosphorus (as P)	0.842	0.002	0.453	0.002	0.558	0.002	0.827	0.002

Sample Description	Sewage Plant Over Flow #14		Sewage Plant Over Flow #15		Sewage Plant Over Flow #16	
Sample Date	5/2/2020 10:00 PM		5/3/2020 6:00 AM		5/3/2020 2:00 PM	
Lab ID	1533249		1533250		1533251	

General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
pH	7.39	N/A	7.67	N/A	7.29	N/A	pH
Total Kjeldahl Nitrogen	12.1	0.4	10.4	0.4	13.1	0.4	mg/L
Total Phosphorus (as P)	0.763	0.002	0.435	0.002	0.862	0.002	mg/L

Sample Description	Sewage Plant Over Flow #10		Sewage Plant Over Flow #11		Sewage Plant Over Flow #12		Sewage Plant Over Flow #	
Sample Date	5/1/2020 3:00 PM		5/1/2020 11:00 PM		5/2/2020 7:00 AM		5/2/2020 3:00 AM	
Lab ID	1533245		1533246		1533247		1533248	

Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Result	MDL
BOD (5 day)	13.1 [12]	1	11.9	1	8	1	11.5	1
Carbonaceous BOD	11.1 [12.8]	1	8.2	1	3.3	1	11.3	1

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Sample Description	Sewage Plant Over Flow #14		Sewage Plant Over Flow #15		Sewage Plant Over Flow #16		
Sample Date	5/2/2020 10:00 PM		5/3/2020 6:00 AM		5/3/2020 2:00 PM		
Lab ID	1533249		1533250		1533251		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	11.7	1	5.6	1	11.9	1	mg/L
Carbonaceous BOD	3.2	1	2.6	1	11.7	1	mg/L

Sample Description	Sewage Plant Over Flow #10		Sewage Plant Over Flow #11		Sewage Plant Over Flow #12		Sewage Plant Over Flow #	
Sample Date	5/1/2020 3:00 PM		5/1/2020 11:00 PM		5/2/2020 7:00 AM		5/2/2020 3:00 AM	
Lab ID	1533245		1533246		1533247		1533248	
Solids	Result	MDL	Result	MDL	Result	MDL	Result	MDL
Total Suspended Solids	87	2	41	2	52	2	76	2

Sample Description	Sewage Plant Over Flow #14		Sewage Plant Over Flow #15		Sewage Plant Over Flow #16		
Sample Date	5/2/2020 10:00 PM		5/3/2020 6:00 AM		5/3/2020 2:00 PM		
Lab ID	1533249		1533250		1533251		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	57	2	23	2	70	2	mg/L

Date of Issue: 05/11/2020 16:38

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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

LEGEND

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MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOI

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: MAY 28/20 Time of Call: 1208 (a.m.) p.m.
SAC Reference #: 904411 Person Who Called: Aaron Richards

Called SAC at: 1208 AM Reported By: Rob McNabb

Called MOH at: 1216 AM Reported By: Rob McNabb

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: Cochran STP

Time of Incident: 1120 a.m./p.m. Receiver: Lilabelle Creek

Details of Incident: Heavy Rain

Downstream Users: NONE

Possible Effects on Receiver, Environment or Downstream Users: No

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: MAY 29/20 Time of Call: 1059 Person Contacted: RENEE BIRNBAUM

Time of Termination: 0800 Approximate Volume: 125 12478 Cu. Meters

Duration of Bypass: 8 hrs

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: NO

Reported By: Aaron Morrison
1103 CALLED M.O.H.



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	401496
Company:	Town of Cochrane - Wastewater	PO #:	120000355
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Aaron Morrison
Date Order Received:	5/29/2020	Analysis Started:	5/29/2020
Arrival Temperature:	17 °C	Analysis Completed:	6/8/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1541450	Wastewater	Grab		5/29/2020	12:00 AM
Sewage Plant Overflow	1541451	Wastewater	Grab		5/29/2020	8:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD)	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NOR-G-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 401496

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 401496

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	5/29/2020 12:00 AM		5/29/2020 8:00 AM		
Lab ID	1541450		1541451		
Anions	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	2.11	0.05	mg/L
Nitrite (as N)	<0.05	0.05	<0.05	0.05	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	5/29/2020 12:00 AM		5/29/2020 8:00 AM		
Lab ID	1541450		1541451		
General Chemistry	Result	MDL	Result	MDL	Units
Ammonia (as N)	4.34	0.01	8.55	0.02	mg/L
pH	7.09	N/A	7.57	N/A	pH
Total Kjeldahl Nitrogen	7.8	0.4	9.6	0.4	mg/L
Total Phosphorus (as P)	0.585	0.002	0.645	0.002	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	5/29/2020 12:00 AM		5/29/2020 8:00 AM		
Lab ID	1541450		1541451		
Microbiology	Result	MDL	Result	MDL	Units
Escherichia coli	>200000	1000	>200000	1000	CFU/100mL



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Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 401496

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	5/29/2020 12:00 AM		5/29/2020 8:00 AM		
Lab ID	1541450		1541451		
Oxygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	13.9	1	6.4	0.5	mg/L
Carbonaceous BOD	14	1	13.6	1	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	5/29/2020 12:00 AM		5/29/2020 8:00 AM		
Lab ID	1541450		1541451		
Solids	Result	MDL	Result	MDL	Units
Total Suspended Solids	320	20	35.5	1	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
12000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: JUNE 23/20 Time of Call: 1155 (a.m./p.m.)
SAC Reference #: 904466 Person Who Called: MIKE NELSON

Called SAC at: 1200 Reported By: _____

Called MOH at: _____ Reported By: _____

Bypass: _____ Spill: _____ Leak: _____ Overflow:

Location of Incident: STP

Time of Incident: 1145 (a.m./p.m.) Receiver: LILLIBELLE CREEK

Details of Incident: OVERFLOW DUE TO HEAVY RAIN

Downstream Users: NONE

Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272- 4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

SAC Date: JUNE 26/20 Time of Call: 1140 Person Contacted: SAT/MA
MOH " " " " " 1143 " " " " LEFT MESSAGE

Time of Termination: 0945 Approximate Volume: 5088.3 Cu. Meters

Duration of Bypass: 2 DAYS 22 HRS (70 HRS)

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: NO

Reported By: AARON MORRISON

M.O.H.
MSG
TALK TO
WYONNA



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	403974
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Rob McNabb
Date Order Received:	6/24/2020	Analysis Started:	6/25/2020
Arrival Temperature:	17 °C	Analysis Completed:	7/2/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1550178	Wastewater	Grab		6/23/2020	11:50 AM
Sewage Plant Overflow	1550179	Wastewater	Grab		6/23/2020	3:00 PM
Sewage Plant Overflow	1550180	Wastewater	Grab		6/23/2020	11:00 PM
Sewage Plant Overflow	1550181	Wastewater	Grab		6/24/2020	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD)	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 403974

Method	Lab	Description	Reference
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

REPORT COMMENTS

Bacti Lot# N/A

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 403974

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow								
Sample Date	6/23/2020 11:50 AM		6/23/2020 3:00 PM		6/23/2020 11:00 PM		6/24/2020 7:00 AM		
Lab ID	1550178		1550179		1550180		1550181		
Anions	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	<0.05	0.05	<0.05	0.05	2.87	0.05	mg/L
Nitrite (as N)	<0.05	0.05	<0.05	0.05	<0.05	0.05	0.14	0.05	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/23/2020 11:50 AM		6/23/2020 3:00 PM		6/23/2020 11:00 PM		6/24/2020 7:00 AM		
Lab ID	1550178		1550179		1550180		1550181		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	4.38	0.01	3.42	0.01	3.73	0.01	0.50	0.01	mg/L
pH	6.88	N/A	7.1	N/A	7.15	N/A	7.53	N/A	pH
Total Kjeldahl Nitrogen	25.6	0.4	14.1	0.4	13.1	0.4	4.2	0.4	mg/L
Total Phosphorus (as P)	3.87	0.02	1.500	0.006	1.290	0.006	0.361	0.002	mg/L

Sample Description	Sewage Plant Overflow								
Sample Date	6/23/2020 11:50 AM		6/23/2020 3:00 PM		6/23/2020 11:00 PM		6/24/2020 7:00 AM		
Lab ID	1550178		1550179		1550180		1550181		
Microbiology	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Escherichia coli	1200000	10000	1860000	10000	1940000	10000	1470000	10000	CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 403974

Sample Description	Sewage Plant Overflow								
Sample Date	6/23/2020 11:50 AM		6/23/2020 3:00 PM		6/23/2020 11:00 PM		6/24/2020 7:00 AM		
Lab ID	1550178		1550179		1550180		1550181		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	8.5	1	10.2	1	11.2	1	8.4	1	mg/L
Carbonaceous BOD	9.3	1	11	1	10.9	1	4.9	1	mg/L

Sample Description	Sewage Plant Overflow								
Sample Date	6/23/2020 11:50 AM		6/23/2020 3:00 PM		6/23/2020 11:00 PM		6/24/2020 7:00 AM		
Lab ID	1550178		1550179		1550180		1550181		
Solids	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	450.0	6.7	153.0	6.7	116	4	278	2	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	404115
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Mike Nelson
Date Order Received:	6/25/2020	Analysis Started:	6/26/2020
Arrival Temperature:	14 °C	Analysis Completed:	7/2/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1550654	Wastewater	Grab		6/24/2020	3:00 PM
Sewage Plant Overflow	1550655	Wastewater	Grab		6/24/2020	11:00 PM
Sewage Plant Overflow	1550656	Wastewater	Grab		6/25/2020	7:00 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (S2)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2.
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



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CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 404115

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 404115

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/24/2020 3:00 PM		6/24/2020 11:00 PM		6/25/2020 7:00 AM		
Lab ID	1550654		1550655		1550656		
Anions	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	1.41	0.05	2.33	0.05	3.10	0.05	mg/L
Nitrite (as N)	1.40	0.05	0.27	0.05	0.09	0.05	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/24/2020 3:00 PM		6/24/2020 11:00 PM		6/25/2020 7:00 AM		
Lab ID	1550654		1550655		1550656		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	3.42	0.01	2.47	0.01	2.46	0.01	mg/L
pH	7.56 [7.58]	N/A	7.77	N/A	8.03	N/A	pH
Total Kjeldahl Nitrogen	8.6	0.4	5.8	0.4	9.7	0.4	mg/L
Total Phosphorus (as P)	0.681	0.002	0.512	0.002	0.551	0.002	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/24/2020 3:00 PM		6/24/2020 11:00 PM		6/25/2020 7:00 AM		
Lab ID	1550654		1550655		1550656		
Microbiology	Result	MDL	Result	MDL	Result	MDL	Units
Escherichia coli	2000000	10000	1700000	10000	240000	10000	CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 404115

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/24/2020 3:00 PM		6/24/2020 11:00 PM		6/25/2020 7:00 AM		
Lab ID	1550654		1550655		1550656		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	11.7	1	12.8	1	9.7	1	mg/L
Carbonaceous BOD	12.5	1	11	1	5.3	1	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/24/2020 3:00 PM		6/24/2020 11:00 PM		6/25/2020 7:00 AM		
Lab ID	1550654		1550655		1550656		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	79	2	45	2	116	2	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

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MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.



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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	404202
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Rob McNabb
Date Order Received:	6/26/2020	Analysis Started:	6/26/2020
Arrival Temperature:	22 °C	Analysis Completed:	7/6/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1550921	Wastewater	Grab		6/25/2020	3:00 PM
Sewage Plant Overflow	1550922	Wastewater	Grab		6/25/2020	11:00 PM
Sewage Plant Overflow	1550923	Wastewater	Grab		6/26/2020	6:55 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 404202

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 404202

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/25/2020 3:00 PM		6/25/2020 11:00 PM		6/26/2020 6:55 AM		
Lab ID	1550921		1550922		1550923		
Anions	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	1.35	0.05	<0.05	0.05	2.63	0.05	mg/L
Nitrite (as N)	0.77	0.05	1.01	0.05	<0.05	0.05	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/25/2020 3:00 PM		6/25/2020 11:00 PM		6/26/2020 6:55 AM		
Lab ID	1550921		1550922		1550923		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	2.49	0.01	3.73	0.01	2.34	0.01	mg/L
pH	7.43	N/A	7.37	N/A	7.63	N/A	pH
Total Kjeldahl Nitrogen	8.6	0.4	1.5	0.4	38.1	0.4	mg/L
Total Phosphorus (as P)	0.606	0.002	0.707	0.002	0.658	0.002	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/25/2020 3:00 PM		6/25/2020 11:00 PM		6/26/2020 6:55 AM		
Lab ID	1550921		1550922		1550923		
Microbiology	Result	MDL	Result	MDL	Result	MDL	Units
Escherichia coli	1230000	10000	1860000	10000	430000	10000	CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 404202

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/25/2020 3:00 PM		6/25/2020 11:00 PM		6/26/2020 6:55 AM		
Lab ID	1550921		1550922		1550923		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	11,3	1	10,2	1	11,9	1	mg/L
Carbonaceous BOD	12,8	1	12,2	1	11,1	1	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	6/25/2020 3:00 PM		6/25/2020 11:00 PM		6/26/2020 6:55 AM		
Lab ID	1550921		1550922		1550923		
Solids	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	47 [39]	2	64	2	25	1	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
12000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: SEPT-29/20 Time of Call: 0105 a.m./p.m.
SAC Reference #: 904786 Person Who Called: AARON MORRISON
Called SAC at: 0105 Reported By: ^{TO} NETL HAMILTON
Called MOH at: 0110 ^{LEFT MESSAGE} Reported By: TANYA
Bypass: _____ Spill: _____ Leak: _____ Overflow:
Location of Incident: COCHRANE STP
Time of Incident: 0045 a.m./p.m. Receiver: LILABELLE CREEK
Details of Incident: HEAVY RAIN

Downstream Users: NONE
Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 3 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: _____
Details of Call: _____

Termination of Incident

Date: SEPT 29/20 Time of Call: 0816 Person Contacted: ALIM
Time of Termination: 0830 Approximate Volume: 123.6 Cu. Meters
Duration of Bypass: 8 hrs 45 min
Current Status: Chlorinating? Yes: _____ No: Explain: _____
Further Action Required: NO

Reported By: AARON MORRISON

M.OH 1020 - LEFT MESSAGE. SForm.014.Bypa.2013



CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	412537
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave, Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Aaron Morrison
Date Order Received:	9/29/2020	Analysis Started:	9/29/2020
Arrival Temperature:	18 °C	Analysis Completed:	10/5/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1580479	Wastewater	Grab		9/29/2020	12:55 AM
Sewage Plant Overflow	1580480	Wastewater	Grab		9/29/2020	8:30 AM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2,
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540



TESTMARK Laboratories Ltd.

Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 412537

REPORT COMMENTS

Bacti lot # N/A

This report has been approved by:

Adam Tam, M.Sc.

Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 412537

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	9/29/2020 12:55 AM		9/29/2020 8:30 AM		
Lab ID	1580479		1580480		
Anions	Result	MDL	Result	MDL	Units
Nitrate (as N)	0.28	0.05	0.71	0.05	mg/L
Nitrite (as N)	0.13	0.05	0.13	0.05	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	9/29/2020 12:55 AM		9/29/2020 8:30 AM		
Lab ID	1580479		1580480		
General Chemistry	Result	MDL	Result	MDL	Units
Ammonia (as N)	2.84	0.01	8.40	0.02	mg/L
pH	7.24	N/A	7.45	N/A	pH
Total Kjeldahl Nitrogen	15.3 [15.3]	0.4	16.5	0.4	mg/L
Total Phosphorus (as P)	1.43	0.02	1.67	0.02	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	9/29/2020 12:55 AM		9/29/2020 8:30 AM		
Lab ID	1580479		1580480		
Microbiology	Result	MDL	Result	MDL	Units
Escherichia coli	1270000	10000	>2000000	10000	CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 412537

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	9/29/2020 12:55 AM		9/29/2020 8:30 AM		
Lab ID	1580479		1580480		
Oxygen Demand	Result	MDL	Result	MDL	Units
BOD (5 day)	11.9	1	11.2	1	mg/L
Carbonaceous BOD	12	1	12.3	1	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	9/29/2020 12:55 AM		9/29/2020 8:30 AM		
Lab ID	1580479		1580480		
Solids	Result	MDL	Result	MDL	Units
Total Suspended Solids	203	2	96.0	1.3	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[r]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

205 272 5067

SEWAGE PLANT/LIFT STATION(S)
OVERFLOW BYPASS, SPILL, OR LEAK REPORTING ID #
120000355

Spills Action Center Phone No. 1-800-268-6060
MOH Phone No. 1-800-461-1818

Date: NOV 10/20 Time of Call: 0800 a.m./(p.m)
Reference #: 904831 Person Who Called: Rob McNabb
Office Called: SAC @ 8:02pm Reported By: TO Chris Matton
Bypass: MOH @ 8:08pm Spill: _____ Leak: _____ Overflow:
Location of Incident: STP Cochran ONT
Time of Incident: 0800 a.m./(p.m) Receiver: Lizabelle creek
Details of Incident: Heavy Rains

Downstream Users: NONE

Possible Effects on Receiver, Environment or Downstream Users: NO

NOTE: Take 2 Raw Sewage Samples Per Incident & Have them Tested For every 8 hours during the overflow:

1. 5-day BOD and CBOD, Suspended Solids, pH, TKN and Total phosphorus

Addition Calls

Town Hall: Phone No. 272-4361 Fax No. 272-6068 Time of Call: _____

Details of Call: _____

Termination of Incident

Date: NOV 11/20 Time of Call: _____ Person Contacted: Ac-on

Time of Termination: 1500 Approximate Volume: 1532.375 ~~1532.375~~ Cu. Meters cu meters

Current Status: Chlorinating? Yes: _____ No: Explain: _____

Further Action Required: _____

Reported By: _____

Duration of Incident = 19 hrs.



TESTMARK Laboratories Ltd.
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CERTIFICATE OF ANALYSIS

Client:	Melissa Hoogenhoud	Work Order Number:	416986
Company:	Town of Cochrane - Wastewater	PO #:	
Address:	171 Fourth Ave. Box 490 Cochrane, ON, P0L 1C0	Regulation:	Information not provided
Phone/Fax:	(705) 272-4232 / (705) 272-2634	Project #:	Overflow
Email:	Melissa.Hoogenhoud@cochraneontario.com	DWS #:	
		Sampled By:	Rob McNabb
Date Order Received:	11/12/2020	Analysis Started:	11/13/2020
Arrival Temperature:	15 °C	Analysis Completed:	11/18/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
Sewage Plant Overflow	1598276	Wastewater	Grab		11/10/2020	8:00 PM
Sewage Plant Overflow	1598277	Wastewater	Grab		11/11/2020	4:00 AM
Sewage Plant Overflow	1598278	Wastewater	Grab		11/11/2020	10:00 AM
Sewage Plant Overflow	1598279	Wastewater	Grab		11/11/2020	5:00 PM

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
Ammonia Water (A42)	Timmins	Determination of Ammonia/Ammonium in Water	Modified from EPA 350.1
Anions Water (mg/L by IC) (A5)	Timmins	Determination of Anions in Water by Ion Chromatography	Modified from SW846-9056A
BOD (A3)	Kirkland Lake	Determination of Biochemical Oxygen Demand (BOD)	Modified from SM-5210 B
CBOD (A3)	Kirkland Lake	Determination of Carbonaceous Biochemical Oxygen Demand (CBOD).	Modified from SM-5210-B
E.coli by MF on mFC-BCIG (A10)	Timmins	Determination of E. coli in water by Membrane Filtration on mFC-BCIG media	Modified from MOE E3371
pH of Water (A2.0)	Timmins	Determination of Water pH by Ion Selective Electrode	Modified from APHA-4500H+ B
TKN Water Dig. (A58)	Kirkland Lake	Determination of Total Kjeldahl Nitrogen in Waters with Block Digestion.	Modified from SM-4500 NORG-D
TP Water (A23.2)	Kirkland Lake	Determination of Total Phosphorus in Water.	Modified from EPA 365.3 and ESS 310.2.



TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 416986

Method	Lab	Description	Reference
TSS (A27)	Timmins	Determination of Total Suspended Solids in water by gravimetry	Modified from SM-2540

This report has been approved by:

Adam Tam, M.Sc.
Laboratory Director



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 416986

WORK ORDER RESULTS

Sample Description	Sewage Plant Overflow								
Sample Date	11/10/2020 8:00 PM		11/11/2020 4:00 AM		11/11/2020 10:00 AM		11/11/2020 5:00 PM		
Lab ID	1598276		1598277		1598278		1598279		
Anions	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Nitrate (as N)	<0.05	0.05	2.47	0.05	2.70	0.05	1.40	0.05	mg/L
Nitrite (as N)	<0.05	0.05	<0.05	0.05	0.26	0.05	0.58	0.05	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	11/10/2020 8:00 PM		11/11/2020 4:00 AM		11/11/2020 10:00 AM		11/11/2020 5:00 PM		
Lab ID	1598276		1598277		1598278		1598279		
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Ammonia (as N)	3.74	0.01	0.71	0.01	4.55	0.01	3.75	0.01	mg/L
pH	7.12	N/A	7.67	N/A	7.58	N/A	7.54	N/A	pH
Total Kjeldahl Nitrogen	19.2	0.4	5.0 [5.0]	0.4	8.2	0.4	21.3	0.4	mg/L
Total Phosphorus (as P)	2.12	0.02	0.246	0.002	0.880	0.002	0.847	0.002	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	11/10/2020 8:00 PM		11/11/2020 4:00 AM		11/11/2020 10:00 AM		11/11/2020 5:00 PM		
Lab ID	1598276		1598277		1598278		1598279		
Microbiology	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Escherichia coli	1970000	10000	73000 [82000]	1000	1380000	10000	890000	10000	CFU/100mL



CERTIFICATE OF ANALYSIS

Town of Cochrane - Wastewater

Work Order Number: 416986

Sample Description	Sewage Plant Overflow								
Sample Date	11/10/2020 8:00 PM		11/11/2020 4:00 AM		11/11/2020 10:00 AM		11/11/2020 5:00 PM		
Lab ID	1598276		1598277		1598278		1598279		
Oxygen Demand	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
BOD (5 day)	10.7	1	8.5	1	13.4	1	12.7	1	mg/L
Carbonaceous BOD	10.5	1	5.9	1	4.5	1	13.8	1	mg/L

Sample Description	Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		Sewage Plant Overflow		
Sample Date	11/10/2020 8:00 PM		11/11/2020 4:00 AM		11/11/2020 10:00 AM		11/11/2020 5:00 PM		
Lab ID	1598276		1598277		1598278		1598279		
Solids	Result	MDL	Result	MDL	Result	MDL	Result	MDL	Units
Total Suspended Solids	320	4	60.5	1	43.30	0.67	67	1	mg/L

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[r]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

Quality Control: All associated Quality Control data is available on request.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

Calibration Reports

Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 16 / 03 / 20 @ 12 : 30 **End Day/Time:** 16 / 03 / 20 @ 12 : 45
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: _____ 1 _____ **Total Man Hours:** _____ 1/4 _____

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments:

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Blake Dickinson _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Spectrophotometer DR2800 _____

OCWA ID: _____ **Serial #:** _____ 1230881 _____

Start Day/Time: 16 / 03 / 20 @ 12 : 15 **End Day/Time:** 16 / 03 / 20 @ 12 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: _____ 1 _____ **Total Man Hours:** _____ 1/4 _____

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: Spectrophotometer

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
See back of page				

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description
1	2635300	Low Range DPD secondary standards
1	27639-00	DR check absorbency standards

Comments:

Name: _____ Blake Dickinson _____ **Signature:** _____

Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ pH Portable SenSION PH3 _____

OCWA ID: _____ **Serial #:** _____ 615107 _____

Start Day/Time: 16 / 03 / 20 @ 12 : 00 **End Day/Time:** 16 / 03 / 20 @ 12 : 15
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: _____ 1 _____ **Total Man Hours:** _____ 1/4 _____

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
pH 4.00	4.19	95.46%	4.02	99.50%
pH 7.00	7.11	98.45%	7.02	99.71%
pH 10.00	10.10	99.00%	10.06	99.40%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description
1	2283449	Hach pH 4 Buffer
1	2283549	Hach pH 7 Buffer
1	2283649	Hach pH 10 Buffer

Comments:

Name: _____ Blake Dickinson _____ **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 11 / 06 / 20 @ 10 : 45 **End Day/Time:** 11 / 06 / 20 @ 11 : 00
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments:

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Blake Dickinson _____ Signature: _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ pH Portable SenSION PH3 _____

OCWA ID: _____ **Serial #:** _____ 615107 _____

Start Day/Time: 15 / 09 / 20 @ 11 : 45 **End Day/Time:** 15 / 09 / 20 @ 12 : 00
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
pH 4.00	4.20	95.23%	4.02	99.50%
pH 7.00	7.32	95.62%	7.02	99.71%
pH 10.00	10.25	97.56%	10.07	99.30%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description
1	2283449	Hach pH 4 Buffer
1	2283549	Hach pH 7 Buffer
1	2283649	Hach pH 10 Buffer

Comments: _____

Name: _____ Blake Dickinson _____

Signature:



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - West _____

OCWA ID: _____ **Serial #:** _____ 120859005177 _____

Start Day/Time: 15 / 09 / 20 @ 11 : 15 **End Day/Time:** 15 / 09 / 20 @ 11 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
5.0cm	4.8cm	96.00%	5.0cm	100%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description

Comments:

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. Adjusted as needed.

Name: _____ Blake Dickinson _____

Signature: _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - Influent Bypass

OCWA ID: _____ **Serial #:** _____ PBD/LO280361

Start Day/Time: 15 / 09 / 20 @ 11 : 15 **End Day/Time:** 15 / 09 / 20 @ 11 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
	0.00			

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description

Comments:

Performed 1 point calibration. Placed medium under transducer to check zero. Verified reading on flow transmitter.

Name: _____ Blake Dickinson **Signature:**



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - Effluent Bypass _____

OCWA ID: _____ **Serial #:** _____ 120859005176 _____

Start Day/Time: 15 / 09 / 20 @ 11 : 00 **End Day/Time:** 15 / 09 / 20 @ 11 : 15
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: _____ 1 _____ **Total Man Hours:** _____ 1/4 _____

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
0.00cm	0.00cm	100%		

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description

Comments: _____

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. No flow was present and the flowmeter was reading zero flow.

Name: _____ Blake Dickinson _____

Signature: _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - East

OCWA ID: _____ **Serial #:** _____ PBD/E4170039

Start Day/Time: 19 / 09 / 19 @ 12 : 30 **End Day/Time:** 19 / 09 / 19 @ 12 : 45
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: _____ 1 **Total Man Hours:** _____ 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
4.4cm	4.3cm	97.72%	4.4cm	100%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description

Comments:

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. Adjusted as needed.

Name: _____ Blake Dickinson **Signature:** _____



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ HACH OCM Transmitter - Contact Flow _____

OCWA ID: _____ **Serial #:** _____ 120859005176 _____

Start Day/Time: 15 / 09 / 20 @ 11 : 00 **End Day/Time:** 15 / 09 / 20 @ 11 : 15
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: _____

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy
22.0cm	22.4cm	98.21%	22.0cm	100%

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description

Comments:

Performed 1 point calibration. Measured height of water at flume compared to measurement on flowmeter. Adjusted as needed.

Name: _____ Blake Dickinson _____

Signature:



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 15 / 09 / 20 @ 11 : 45 **End Day/Time:** 15 / 09 / 20 @ 12 : 00
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) -1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments:

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Blake Dickinson _____

Signature:



Instrumentation Calibration/Maintenance Report

Location: _____ Cochrane WWTP _____

ORG # _____ **Work Order #:** _____

Instrument: _____ Portable Dissolved Oxygen Meter _____

OCWA ID: _____ **Serial #:** _____ 160900003927 _____

Start Day/Time: 22 / 12 / 20 @ 11 : 15 **End Day/Time:** 22 / 12 / 20 @ 11 : 30
DD/MM/YY 24hour clock DD/MM/YY 24hour clock

of Workers: 1 **Total Man Hours:** 1/4

Type of Work Order:

Scheduled Maintenance Corrective Work Order Other: _____

Instrument Type:

Recorder Transmitter pH Chlorine Turbidity Flow Other: DO

Calibration: See Reverse page for calibration data

Input/Standard	As Found		As Left	
	Actual Value	% Accuracy	Actual Value	% Accuracy

% Accuracy Calculation => **ABS**([(Actual Value/Standard) - 1] x 100%)

Material Used:

Quantity	Part #	Description
1		6mm of Distilled water as per calibration instructions

Comments:

Shake 6mm (1/4") of water in a beaker for 30 seconds. Insert probe in beaker above water. Allow for probe to stabilize. Begin calibration.

Instrument Passed Calibration.

In good working order.

Name: _____ Blake Dickinson _____ **Signature:** _____